REMARKS

Claims 1-8, 10-15, 17-23, and 25-27 were previously pending in this application. Claims 1, 11, 15, 21 and 23 have been amended. As a result, claims 1-8, 10-15, 17-23, and 25-27 are pending for examination with claims 1, 15, 21 and 23 being independent claims. No new matter has been added.

Examiner Interview

Applicant wishes to thank Examiner Patrick Darno for the courtesies extended to Applicant's Representative during the Interview conducted on February 29, 2008. During the Interview Applicant's Representative and Examiner Darno discussed the pending Office Action, dated October 5, 2007, and the rejection of claims under 35 U.S.C. §103(a) over Anita Jindal, et al., U.S. Patent No. 6,092,178, (hereinafter "Jindal") in further view of Sunil K. Srivastava, U.S. Patent Application Publication No. 2005/0149531, (hereinafter "Srivastava"). In particular, Applicant's Representative discussed how the independent claim 1 distinguished over the cited reference. Although agreement was not reached, Examiner Darno agreed in principle that the was subject matter that would distinguish over Jindal/Srivastava. In particular, Examiner Darno indicated that the rejection of claim 1 was predicated on the concept that "the first one of the plurality of servers" was not sufficiently distinguishable from the DNS server of Jindal, and through the combination of Srivastava the DNS server would be able to deliver information to the client to allow a client to make a server selection. Examiner Darno indicated that if claim 1 was amended to clarify the architectural differences over the cited DNS server references, the Examiner would reconsider the claims over the cited references. Accordingly, Applicant submitted amended claim 1 by fax and discussed the amendment in light of the present rejection during a phone conference on March 4, 2005. Although agreement was not reached, Examiner Darno agreed to consider the claim amendments in light of the Applicant position that the DNS system and the first one of the plurality of servers should be interpreted to be different systems. Applicant respectfully submits the present Amendment and remarks that are believed to traverse the rejection.

Rejections Under 35 U.S.C. §103

The Office Action rejected claims 1-8, 10-12, 15, and 17-27 under 35 U.S.C. §103(a) as being unpatentable over Jindal, et al., U.S. Patent No. 6,092,178 (hereinafter Jindal), in further view of Srivastava, U.S. Patent Application Number 2005/0149531, hereinafter Srivastava. Applicant has amended claims 1, 11, 15, 21 and 23 to further describe Applicant's contribution to the art, and in response, Applicant respectfully traverses the rejection and submits the following remarks.

Jindal is directed to a system for responding to a resource request that employs a trigger in association with a network naming service, such as DNS (Domain Name Service), that handles client requests for an application. (Abstract). The trigger comprises a set of executable instructions referenced by a resource record associated with an identifier of the application. (Abstract). In response to a client request concerning the application, the resource record is retrieved and the instructions executed. (Abstract). In one embodiment, information (response time, operational status, number of clients connected to the instance, throughput, status or performance of the servers themselves) is stored on the DNS server or a system that is coupled to the DNS server. (Col. 6, lines 60-62; lines 45-54). Identities of one or more of the preferred servers may also be stored. Thus a trigger, when executed in response to a client request, may retrieve the identity of a pre-selected preferred server or select a preferred server based on the collected information and/or criteria provided in the client request. (Col. 6, lines 62-67). In one embodiment, the information is collected by a load-balancing framework, consisting of multiple executable objects, modules or other collection of executable instructions. (Col 3, lines 61-63). Each instance of an application is thus associated with its own status object(s) and monitor objects that collect and store information. (please see Col 3, lines 66-67 and Col. 4 lines 1-12).

In summary, Jindal discloses a system for responding to a resource request that performs load-balancing by employing triggers, the triggers either select a predefined preferred server or the triggers perform analysis based on stored data to select a preferred server hosting an application instance. Thus, in response to a request from a client for a service, Jindal performs a load-balancing analysis and then connects the client to a "preferred server." Once a connection to a "preferred server" is established, the process disclosed in Jindal is complete.

In contrast, claim 1 recites a method of providing a service to a client from one of a plurality of servers in a server farm, each of the servers arranged to provide the service to the

client, each of the servers being associated with a service address common to all of the servers, and the servers communicating with one another so as to update identity and status information stored at each of the servers relating to each of the servers in the server farm. The method comprises the steps of receiving, at a DNS system, a request for the service from the client, the request specifying the common service address, in response to the request, applying a load balancing method to select a first one of the plurality of servers in the server farm and connecting the client to the selected first one of the plurality of servers in the server farm, receiving, at the client, the identity and status information relating to each of the plurality of servers in the server farm, from the selected first one of the plurality of servers in the server farm to which the client is connected, and selecting, at the client, a second one of the plurality of servers in the server farm as the server to be used to provide the service to the client, based on the received information.

The Office Action makes clear that the rejection of claim 1 over Jindal/Srivistava is predicated on the interpretation of the DNS server of Jindal reading on both the "DNS system" of the first receiving element and "the server to which the client is connected" of the second receiving element of claim 1. (Office Action, p. 3 2nd and 3rd paragraph). Applicant respectfully submits that claim 1, as amended, clarifies the architectural differences over the cited DNS server references. Applying the Examiner's reasoning to claim 1, as amended, that the DNS server of Jindal and/or Srivastava reads on both "a DNS system" and "a first one of the plurality of servers in the server farm" would require that a client connect to a DNS system which then uses a load balancing method to connect *to itself* in order to deliver status and identity information to the already connected client. Logically, such reading does not agree with the plain language of the claim, nor would one skilled in the art look to force a DNS server to connect to itself in order to satisfy a client request.

Claim 1, as amended recites:

… receiving, at a DNS system, a request for the service from the client, the request specifying the common service address …

… in response to the request, applying a load balancing method to select a first one of the plurality of servers in the server farm and ***connecting the client to the selected first one of the plurality of servers*** in the server farm …

Under the Examiner's reading, the second element of the claim would read on … in response to the request [received at a DNS system], applying a load balancing method to select the DNS system and connecting the client to the DNS system … . Applicant respectfully submits that this reading of the references and the claims language can not be reasonable. Thus, a reading of the DNS server of Jindal as the "selected first one of the plurality of servers" is not reasonable in light of amended claim 1.

Jindal does not teach or suggest "receiving, at the client, the identity and status information relating to each of the plurality of servers in the server farm, from *the selected first one of the plurality of servers* in the server farm to which the client is connected," as recited in claim 1 as amended, and Srivastava does not supply the missing limitation. As discussed above, Jindal employs triggers in association with resource record requests at a DNS server. Thus any information would come from the DNS server in response to a resource record request, regardless of where the trigger was executed. And as the Examiner indicated during the Interview, the background discussion in Srivastava, of the information received at the client, would also come from a DNS server. (See Srivastava, para. [0005] lines 8-11). Neither Jindal nor Srivastava teach or suggest receiving identity and status information form a selected server of a server farm. Therefore, the combination of Jindal/Srivastava does not render obvious that which is recited in claim 1, as amended.

Furthermore, once Jindal directs the request from the DNS server to the server to provide the service and the client is connected, the process described by Jindal ends as a load balanced connection has been established to the application the client has requested. (Please see Abstract). Therefore, Jindal does not teach or suggest "receiving, at the client, the identity and status information relating to each of the plurality of servers in the server farm, from the selected first server in the server farm to which the client is connected," as recited in claim 1, as amended. Nor does Jindal teach or suggest "selecting, at the client, a second one of the plurality of servers in the server farm as the server to be used to provide the service to the client, based on the received information," as recited in claim 1, as amended.

Srivastava does not supply the missing limitations of claim 1. Srivastava is directed to an apparatus and a method for the rapid routing of data to a load-balanced server by employing label values to define a forwarding route, enabling nodes to fast-switch packets based on label mappings. (Abstract). The first server response packet is switched hop-by-hop, and the label is

stored at each node traversed by the response packets. (Abstract). For other request and response packets, nodes fast-switch the packets based on the label mappings, thus packet flows are rapidly routed from the client to the same server without time-consuming hop-by-hop routing or repeated load balancing decisions. (Abstract). As the Examiner indicated during the Interview, the background discussion in Srivastava, of the information received at the client, would come from a DNS server. (See Srivastava, para. [0005] lines 8-11). Srivastava is like Jindal in that a response is sent by a DNS Server, not a selected server of a server farm. Thus the combination, assuming without admitting it was proper and feasible, does not render obvious that which is claimed.

In addition, Srivastava does not teach or suggest "receiving, at the client, the identity and status information relating to each of the plurality of servers in the server farm, from the selected first server in the server farm to which the client is connected," as recited in claim 1, as amended. Srivastava teaches that after selections are made at load balancing nodes, label records provide a mapping to fast switch subsequent packets. (please see Abstract and para. 0030). Srivastava provides a method for recording load-balancing decisions. Thus it does not teach or suggest "receiving, at the client, the identity and status information relating to each of the plurality of servers in the server farm, from the first server in the server farm to which the client is connected," as recited in claim 1, as amended. Nor does it teach or suggest "selecting, at the client, a second one of the plurality of servers in the server farm as the server to be used to provide the service to the client, based on the received information," as recited in claim 1, as amended.

Although Srivastava recites that a client can look up using DNS, available servers for a particular protocol, and can return "server preferences" that may assist the client in selecting a protocol (para. 5, lines 8-11), it is not taught or suggested that the client may be assisted at one of the plurality of servers in the server farm where each of the servers are arranged to provide a service to the client, and as indicated by the Examiner, such information would come from a DNS server similar to the Jindal reference discussed above. Thus neither Jindal nor Srivastava teach or suggest a client that receives information in a response from a selected server in a server farm. Rather, both Jindal and Srivastava teach systems that respond from a DNS server only. Therefore, the combination of Jindal and the background teachings of Srivastava (assuming,

without admitting, that the combination was proper and feasible) would not render obvious that which is recited in claim 1, as amended.

Furthermore the recitation of "server preferences" in the background of Srivastava does not teach or suggest "status and identity information" as is recited in claim 1. In particular, Srivastava describes that:

> DNS enables a client to look up available servers to a particular protocol, and can return server preferences that may assist in selecting a particular server. Dynamic DNS can store weight values in server records, so that a server can be selected using a weighted approach.
>
> (Para. [0005], lines 8-13).

When fairly read, Srivastava only suggests using weight values in server records, which does not teach or suggest "status and identity information" as recited in claim 1. The Examiner admits that none of the processing disclosed in Jindal occurs at the client and relies on Srivastava to supply the missing teachings. As Srivastava discloses only using a "weighted approach" even the combination of Jindal/Srivastava fails to teach or suggest claim 1.

Moreover, Srivastava appears to teach away from the combination proposed by the Examiner. As Srivastava describes in the background, "although this approach is workable, when a plurality of servers is organized in a server farm that is distributed over numerous logically or geographically separate sites, the past approach becomes inefficient." (para. 0004). Srivastava criticizes conventional approaches of load balancing in the context of high-demand content networks and criticizes past approaches for failing to provide "stickiness." (See para. 0012 and 0024). Thus, Srivastava appears to teaches away from employing past approaches of load balancing (Jindal). As Srivastava teaches away from using past load balancing approaches, one skilled in the art would not look to combine Srivastava and Jindal. Thus the combination proposed by the Examiner is improper.

Accordingly, withdrawal of this rejection is respectfully requested. Claims 2-8, and 10-12 depend from claim 1 and are allowable for at least the same reasons as the independent claim from which they depend.

Independent Claim 15

Independent claim 15 recites a client for use in a client-server system. The client arranged to request a service, the request specifying a service address common to all of a plurality of servers in a server farm, each of the plurality of servers arranged to provide the service to the client and the servers communicating with one another so as to update identity and status information stored at each of the servers relating to each of the servers in the server farm, connect to a first one of the plurality of servers in the server farm selected according to a load balancing method, receive the identity and status information relating to each of the servers in the server farm, from the selected first server in the server farm to which the client is connected, said information identifying each of the plurality of servers, and select a second one of the plurality of servers in the server farm as the server to be used to provide the service to the client, based on the received information.

Jindal/Srivastava does not render obvious claim 15, as amended. As discussed above, Jindal teaches that once a client request is directed to the server and the client is connected to the sever that will provide the application ("the preferred server"), the process described by Jindal ends as a load balanced connection has been established to the application the client has requested. (Please see Abstract). Therefore, Jindal does not teach or suggest a client arranged to "receive the identity and status information relating to each of the servers in the server farm, from the selected first server in the server farm to which the client is connected, said information identifying each of the plurality of servers," as recited in claim 15, as amended. Nor does Jindal teach or suggest a client arranged to "select a second one of the plurality of servers in the server farm as the server to be used to provide the service to the client, based on the received information," as recited in claim 15, as amended.

Srivastava fails to supply the missing limitations of claim 15, as amended. Srivastava does not describe a method or apparatus that allows the client to make any selection. Rather, Srivastava teaches that after selections are made at load balancing nodes, label records provide a mapping to fast switch packets. (please see Abstract and para. 0030). Although the background of Srivastava suggests that a client may perform a lookup at the DNS server, the background does not teach or suggest a client arranged to "request a service, the request specifying a service address common to all of a plurality of servers in a server farm, each of the plurality of servers arranged to provide the service to the client and the servers communicating with one another so

as to update identity and status information," as recited in claim 15, as amended. Nor does Srivastava teach or suggest a client arranged to "receive the identity and status information relating to each of the servers in the server farm, from the selected first server in the server farm to which the client is connected, said information identifying each of the plurality of servers," as recited in claim 15, as amended. Additionally, Srivstava does not teach or suggest a client arranged to "select a second one of the plurality of servers in the server farm as the server to be used to provide the service to the client, based on the received information," as recited in claim 15, as amended. Lastly, When fairly read, Srivastava only suggests using weight values in server records, which does not teach or suggest "status and identity information" as recited in claim 15. The Examiner admits that none of the processing disclosed in Jindal occurs at the client and relies on Srivastava to supply the missing teachings. As Srivastava discloses only using a "weighted approach" even the combination of Jindal/Srivastava fails to teach or suggest claim 15. Therefore, the combination of Jindal and Srivastava (assuming, without admitting, that the combination of references was proper and feasible) would not render obvious that which is recited in claim 15.

Accordingly, Applicant respectfully requests that the rejection be withdrawn. Claims 17-20 depend from claim 15 and are allowable for at least the same reasons as the independent claim from which they depend.

Independent Claim 21

Independent claim 21 recites a server for use in a client-server system having a plurality of servers in a server farm, each of the servers in the server farm being arranged to provide a service to the client, each of the servers being associated with a service address common to all of the servers, and the servers communicating with one another so as to update identity and status information stored at each of the servers relating to each of the servers in the server farm. The server arranged to connect to the client in response to a request from the client for the service routed to a first one of the plurality of servers based on a load balancing method, the request specifying the common service address, send the identity and status information stored at the connected first one of the plurality of servers to the client, and connect to the client in response to a selection, at the client, to a second one of the plurality of servers as the server to be used to provide the service to the client.

The Office Action rejects claim 21 for the same reasons as independent claims 1 and 15. (Office Action, p. 10). As discussed with respect to independent claim 1, Applicant respectfully submits that claim 21, as amended, clarifies the architectural differences over the cited DNS server references. Thus, a reading of the DNS server of Jindal as the "connected first one of the plurality of servers" is not reasonable in light of amended claim 21.

Further, Jindal/Srivastava does not render obvious claim 21, as amended. As discussed above, Jindal teaches that once a client request is directed to the server and the client is connected to the sever that will provide the application ("the preferred server"), the process described by Jindal ends as a load balanced connection has been established to the application the client has requested. (Please see Abstract). Therefore, Jindal does not teach or suggest a server arranged to "send the identity and status information stored at the connected first one of the plurality of servers to the client," as recited in claim 21, as amended. Nor does Jindal teach or suggest a client arranged to "connect to the client in response to a selection, at the client, to a second one of the plurality of servers as the server to be used to provide the service to the client," as recited in claim 21, as amended.

Srivastava fails to supply the missing limitations of claim 21, as amended. Srivastava does not describe a method or apparatus that allows the client to make any selection. Rather, Srivastava teaches that after selections are made at load balancing nodes, label records provide a mapping to fast switch packets. (please see Abstract and para. 0030). Although the background of Srivastava suggests that a client may perform a lookup at a DNS server, the background does not teach or suggest a client arranged to "send the identity and status information stored at the connected first one of the plurality of servers to the client," as recited in claim 21 as amended. Nor does Srivastava teach or suggest a client arranged to "connect to the client in response to a selection, at the client, to a second one of the plurality of servers as the server to be used to provide the service to the client," as recited in claim 21, as amended.

Furthermore, when fairly read, Srivastava only suggests using weight values in server records, which does not teach or suggest "status and identity information" as recited in claim 21. The Examiner admits that none of the processing disclosed in Jindal occurs at the client and relies on Srivastava to supply the missing teachings. As Srivastava discloses only using a "weighted approach" even the combination of Jindal/Srivastava fails to teach or suggest claim 21. Therefore, the combination of Jindal and Srivastava (assuming, without admitting, that the

combination of references was proper and feasible) would not render obvious that which is recited in claim 21.

The Applicant respectfully requests that the rejection be withdrawn. Claim 22 depends from claim 21 and is allowable for at least the same reasons as the independent claim from which it depends.

Independent Claim 23

Independent claim 23 recites a client-server system having a plurality of servers in a server farm, each of the servers being arranged to provide a service to the client and each of the servers being associated with a service address common to all of the servers. The system arranged to communicate information between the servers so that each of the plurality of servers maintains identity and status information relating to all of the servers, receive, at a DNS system, a request for the service from the client, the request specifying the common service address, apply a load balancing method to select a first one of the plurality of servers in the server farm and to connect the client to a selected first one of the plurality of servers in response to the request, send server information to the client from the selected first one of the plurality of servers to which the client is connected, said server information identifying each of the plurality of servers and indicating the status of each of the plurality of servers to the client, and select, at the client, a second one of the plurality of servers as the server to be used to provide the service to the client, based on the server information.

The Office Action rejects claim 23 for the same reasons as independent claims 1 and 15. (Office Action, p. 10). As discussed with respect to independent claim 1, Applicant respectfully submits that claim 23, as amended, clarifies the architectural differences over the cited DNS server references. Thus, a reading of the DNS server of Jindal as the "a selected first one of the plurality of servers" is not reasonable in light of amended claim 23.

Further, assuming without admitting the combination of Jindal and Srivastava proper and feasible, the combination does not render obvious claim 23, as amended. As discussed above, Jindal teaches that once a client request is directed to the server and the client is connected to the sever that will provide the application ("the preferred server"), the process described by Jindal ends as a load balanced connection has been established to the application the client has requested. (Please see Abstract). Therefore, Jindal does not teach or suggest a client-server

system arranged to "send server information to the client from the selected first one of the plurality of servers to which the client is connected, said server information identifying each of the plurality of servers and indicating the status of each of the plurality of servers to the client," as recited in claim 23, as amended. Nor does Jindal teach or suggest a client-server arranged to "select, at the client, a second one of the plurality of servers as the server to be used to provide the service to the client, based on the server information," as recited in claim 23, as amended.

Srivastava fails to supply the missing limitations of claim 23, as amended. Srivastava does not describe a method or apparatus that allows the client to make any selection. Rather, Srivastava teaches that after selections are made at load balancing nodes, label records provide a mapping to fast switch packets. (please see Abstract and para. 0030). Although the background of Srivastava suggests that a client may perform a lookup at a DNS server, the background does not teach or suggest a client arranged to "send server information to the client from the selected first one of the plurality of servers to which the client is connected, said server information identifying each of the plurality of servers and indicating the status of each of the plurality of servers to the client," as recited in claim 23 as amended. Nor does Srivastava teach or suggest a client arranged to "select, at the client, a second one of the plurality of servers as the server to be used to provide the service to the client, based on the server information," as recited in claim 23, as amended.

When fairly read, Srivastava only suggests using weight values in server records, which does not teach or suggest "server information identifying each of the plurality of servers and indicating the status of each of the plurality of servers to the client" as recited in claim 23. The Examiner admits that none of the processing disclosed in Jindal occurs at the client and relies on Srivastava to supply the missing teachings. As Srivastava discloses only using a "weighted approach" even the combination of Jindal/Srivastava fails to teach or suggest claim 23. Therefore, the combination of Jindal and Srivastava (assuming, without admitting, that the combination of references was proper and feasible) would not render obvious that which is recited in claim 23.

The Applicant respectfully requests that the rejection be withdrawn. Claim 25-27 depend from claim 23 and are allowable for at least the same reasons as the independent claim from which they depends.

Dependent Claims 13-14

Claims 13-14 were rejected under 35 U.S.C. 103(a) as being unpatentable over Jindal in view of Srivastava and further in view of Penney, U.S. Patent Application Publication Number 2003/0149653 (hereinafter Penney).

As discussed with respect to independent claim 1 from which claim 13 and 14 depend, first, the combination of Jindal and Srivastava is improper, and second the combination does not teach or suggest that which is recited in independent claim 1, as amended. Claims 13 and 14 depend from claim 1 and are allowable for at least the reasons discussed above with respect to independent claim 1. Further, Penny does not supply the missing limitations discussed above with respect to claim 1.

Penny is directed to a method and apparatus for conducting financial transactions that enables a user to negotiate with multiple customers simultaneously, and receive and respond to transaction solicitations and amend requests in real time. (Abstract). Applicant notes that one skilled in the art would not seek to combine the load-balancing systems of Jindal and Srivastava with financial transaction manager of Penny. Thus, one skilled in the art would not be motivated to combine the references as suggested by the Examiner. Therefore, the conclusion that a client would be granted a second chance to connect to the desired server resulting in greater client satisfaction cannot be reached and is improper hindsight in light of the Applicant's disclosure.

As discussed with respect to independent claim 1 from which 13 and 14 depend, the combination is improper, and even if combined do not teach that which is recited in independent claim 1. If Jindal/Srivastava were combined, there is no motivation to further modify the Jindal/Srivastava combination with the teachings of Penny. Srivastava specifically notes that conventional approaches have disadvantages when applied in the context of high-demand content network. (para. 0012). Srivastava also criticizes approaches that do not provide for "stickiness." (para. 0024). Thus Jindal/Srivastava combination would teach away from any additional combination with the conventional approaches of Penny. Moreover, one skilled in the art would not seek to modify the load-balancing system of Jindal/Srivastava with the financial transaction manager of Penny.

Even if the references were combined as suggested by the Examiner, the combination does not render obvious that which is recited in independent claim 1. In particular, none of the

references teach or suggest "receiving, at the client, the identity and status information relating to each of the plurality of servers in the server farm, from the selected first server in the server farm to which the client is connected" as recited in claim 1, as amended. Nor do they teach or suggest "selecting, at the client, a second one of the plurality of servers in the server farm as the server to be used to provide the service to the client, based on the received information," as recited in claim 1, as amended.

As the proposed combination is first improper, and even if combined (assuming without admitting proper and feasible) does not render obvious that which is recited in claim 1, as amended, the Applicant respectfully submits the rejection should be withdrawn. Claims 13 and 14 depend from claim 1 and are allowable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

CONCLUSION

In view of the foregoing amendments and remarks, reconsideration is respectfully requested. This application should now be in condition for allowance; a notice to this effect is respectfully requested. If the Examiner believes, after this amendment, that the application is not in condition for allowance, the Examiner is requested to call the Applicant's attorney at the telephone number listed below.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 50/2762.

Respectfully submitted,
Adam Stanley James Hawley, Applicant

By: /Matthew H. Grady/
    Edward J. Russavage, Reg. No. 43,069
    Matthew H. Grady, Reg. No. 52,957
    LOWRIE, LANDO & ANASTASI, LLP
    One Main Street
    Cambridge, Massachusetts 02142
    United States of America
    Telephone: 617-395-7000
    Facsimile: 617-395-7070

Docket No.: C2000-7000US
Date: March 5, 2008